

KEYWORDS

Financial crisis
Economic crisis
United States
Financial institutions
Economic regulation
Banking systems
Credit
Risk
Latin America
Caribbean region

Financial regulation and oversight: lessons from the crisis for Latin America and the Caribbean

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The analysis of the financial crisis that broke out in the United States in mid-2008 gave rise to a vigorous debate about the role of financial regulation and oversight. The present article briefly analyses the crisis with a particular emphasis on these subjects, with the goal of suggesting some lessons that can be drawn from it for Latin America and the Caribbean. Accordingly, it describes the economic conditions and major changes that occurred in the financial system of the United States during the 1990s and the current decade, identifying the contribution of these factors to the crisis. The initial lessons drawn from this analysis are the need to: (i) consider macroprudential risk in the regulatory framework, (ii) reduce the procyclical bias of the system, (iii) widen the scope of regulation and (iv) deal with the conflicts of interest that prevent prompt and reliable disclosure of the risk taken on by financial institutions.

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I

Introduction

Historical evidence shows that crises originating in financial systems have been an inseparable part of the process of economic development. The immediate effect of such crises has been to wreak considerable social and economic damage as a result of reduced activity and employment, increased poverty and additional burdens on the public exchequer, with significant effects on programmes aimed at improving social conditions for the lower-income population. Removing any possibility of financial crises occurring would mean greatly inhibiting risk-taking, which is inseparable from progress, innovation and growth. Consequently, the regulatory authority needs to strike a delicate balance between fostering those aspects of financial development that are positive for economic growth and controlling the build-up of risks that could lead to systemic crises.

Underlying this whole debate are four key aspects of financial systems: their high leverage makes them intrinsically fragile or vulnerable; their failure affects public faith (particularly in the case of institutions that take deposits from the public or issue securities in public markets, or both); they behave procyclically, with a tendency to expand in upturns and contract in downturns; and their influence is systemic, as the failure of certain major institutions may not only threaten the whole financial system but can (and usually does) also affect the rest of the economy.

In the case of banks and specialized institutions such as investment and mutual funds, debt-to-capital ratios are high and there is a maturity (and sometimes currency) mismatch between the loans and financial investments they make and the deposits they receive, which obviously makes them vulnerable to sudden market shifts. Nonetheless, risk-taking is essential to the term transformation function, with what are usually short- or medium-term financial savings being used to make longer-term loans and, particularly, long-term investments. Requiring an absolute match between the characteristics of financial saving and investment would result in inadequate levels of investment and

economic development. Accordingly, risk-taking by some economic agents is an essential prerequisite for growth.

At the same time, if the financial authorities allow and encourage the public to channel savings into investment through essentially fragile institutions they are implicitly backing those institutions and may compromise public faith. Consequently, the authorities must take steps to ensure that these savings are not affected by successive losses and that such events have as few negative consequences as possible when they do occur. This is particularly true in the case of small savers who, given the inevitable information asymmetries, are not in a position to inform themselves fully about the uses their money is being put to and the risks being taken on by financial institutions. Prudential solvency regulation is thus indispensable if a balance is to be struck between the use of savings for growth and the preservation of public faith in the system.

This dilemma is compounded by certain features of financial systems and by the formation of expectations that systematically characterize the behaviour of savers, investors, borrowers and intermediaries, i.e., the market in general. For one thing, expectations of a boom tend to become self-fulfilling as they feed back into behaviour, while negative events create recessionary expectations and behaviour. The same happens with risk tolerance, which increases during booms and diminishes during recessions.

Meanwhile, the characteristics and behaviour of financial systems (unlike other organisms) mutate constantly as they innovate in search of potential returns. Their innovativeness and their swiftness to exploit any advantage in unregulated segments make them similar to a virus that is capable of adapting to its environment, with all the benefits and costs and the positive and negative externalities for growth and stability that ensue from this. As a result, regulation will inevitably lag behind changes in the financial system. For the reasons given earlier, though, it cannot be abandoned but must be continually renewed.

The influence of practically all the characteristics mentioned above can be detected in the origins of the current crisis in the financial system of the United States, along with factors connected to the economic cycle and serious supervisory failings. There now

□ The authors are grateful for the comments made on an earlier version of this article by Osvaldo Kacéf, Director of the ECLAC Economic Development Division, and for those made on the present version by an anonymous referee.

follows a brief analysis of how macroeconomic events in the United States helped to create the conditions for this crisis and what role the financial sector has played. After that, the crisis will be considered from the perspective of financial systems in Latin America and the Caribbean to see what main lessons can be

learned for financial regulation and oversight in the region. Because this debate is only just beginning, the intention of the authors is not so much to arrive at definite conclusions as to point out the areas on which they believe the coming regulatory reforms in these countries ought to focus.

II

Elements for the analysis of the current financial crisis

Examination of the current financial crisis reveals a combination of different factors. First, economic conditions in the United States are of particular importance. Beginning in the late 1980s, the country went through a period of high economic growth, interrupted only in 1991 with the Gulf War and in 2001 with the fall in the technology stocks index (NASDAQ), and then as a result of the economic upheaval caused by the attack on the Twin Towers of 11 September 2001.

During the 1990s, economic activity expanded on the basis of higher investment and rapidly rising consumption. This dynamism was sustained by a large increase in liquidity in the money market and a significant reduction in interest rates. From 2001 onward, rapid growth in private-sector demand was combined with a swelling fiscal deficit, the result of higher public spending due to burgeoning military outlays and the economic stimulus programme.¹

The steady growth of domestic demand translated in turn into a large rise in goods and services imports, taking the balance-of-payments current-account deficit from 1.7% of GDP in 1998 to 6.2% in 2006.² The financing needs of the United States led to strong growth in sales of Treasury securities and thence in the quantity of international reserves invested in these instruments by emerging countries. In 2007, about half of all investment in these securities was held by non-residents.³

Falling interest rates, readily available funding and steady economic expansion created a climate of optimism which fed back into strong growth in both consumer and mortgage lending by banks. House prices rose vigorously on the back of strongly expanding demand, driven in turn by the easier availability of credit.⁴ A circle was thus created in which more lending generated more demand, which in turn drove lending steadily higher. Interest rate cuts spread to other economies, resulting in leading stock market indices and house prices behaving similarly in a number of the world's capitals.⁵

A second factor was that major changes were afoot in the workings of the United States financial system: (i) the growing importance of derivatives markets from 2000 onward; (ii) financial sector deregulation in the 1990s and 2000s; (iii) the appearance of the "originate and distribute" model and new derivative instruments; and (iv) the strong growth of subprime mortgage lending.

In the United States, very large sums came to be traded through derivatives contracts. These totalled US\$ 182 trillion in the second quarter of 2008, the equivalent of 12 times the country's GDP (OCC, 2008). Worldwide, the total value of over-the-counter (OTC) derivatives contracts rose from US\$ 95.2 trillion in December 2000 to US\$ 683.725 trillion by the end of the first half of 2008.⁶ Within this overall

¹ See Manuelito, Correia and Jiménez (2009) for a more detailed discussion of the macroeconomic factors that influenced the crisis. In particular, see Machinea (2009) on the role played by monetary policy.

² The current-account deficit fell back to 5.2% and 4.7% of GDP in 2007 and 2008, respectively.

³ Other interpretations of the origins of the crisis emphasize the

role of the United States dollar as a reserve currency and the reaction of the country's economy and economic authorities to the build-up of reserves by emerging economies. See Greenwald and Stiglitz (2008) and Financial Services Authority (2009).

⁴ The S&P/Case-Schiller house price index rose by 85% between January 2000 and December 2007.

⁵ London and Madrid are good examples.

⁶ Over-the-counter derivatives are traded through financial

increase, the value of credit default swaps underwent an extraordinary rise from US\$ 6.396 trillion to US\$ 57.894 trillion. Their share of all outstanding OTC derivatives contracts by value worldwide rose from 2% to 10% (see table 1).

Where financial sector deregulation is concerned, in the early 1990s the United States Federal Reserve System allowed commercial banks to pay interest on current accounts. This meant that these banks could start competing with savings and loan institutions as deposit-takers, but it also meant that the latter would have to start taking on the same risks as commercial banks. In the late 1990s, the Federal Reserve abolished the requirement for banks to specialize as commercial banks, investment banks or saving banks, allowing them to carry out all kinds of operations. While this measure meant that the country's financial system could carry on developing, it was taken in a context where banks had to learn about businesses of which they had no previous experience. Lastly, financial deregulation limited the power of the Federal Reserve to control the credit supply, leaving the federal funds rate and the discount rate as the sole monetary policy instruments.

In recent years, there has also been an important change in the way the financial market works, away from an "originate and own" model and towards an "originate to distribute" one. The new business model allowed the lending process to be split into

different components or phases, from origination to ultimate financing (Bernanke, 2008). Thus, bank lending operations shifted their focus more towards the assessment of risk transfer and arbitrage.

This business model emerged in a context of strong growth in credit default swaps over a short period. These instruments were originally conceived as mechanisms for dispersing credit risk across the financial system. The idea was that they would increase liquidity and transparency in that market and foster the emergence of new risk management tools (Kroszner, 2007) so that the financing of credit could be separated from the allocation of the risk associated with it, a characteristic that made them very attractive to financial institutions. In this context, these securities encouraged greater risk-taking as they opened the way to operations that were not profitable before they existed, the assumption being that, while operations might be riskier, the individual risk taken on by financial agents would potentially be lower, as the risk would be spread more widely in the financial market (Eichengreen, 2008; Financial Services Authority, 2009). It was recognized, however, that the complexity of some of these instruments made it hard to value and measure them and to manage the associated risk.

Consequently, there was a move away from a system in which financial institutions granted loans (they continued to generate lending), evaluated the risk of lending operations and then diversified that risk by transferring some of it to other institutions or through portfolio management operations, to a system in which they did not retain any of the risk associated with their own lending. Thus, the traditional banking

institutions and are usually unstandardized, unlike those traded on organized markets (chiefly stock markets), which are generally standardized.

TABLE 1

Over-the-counter (OTC) financial derivatives: amounts outstanding worldwide, by derivative type
(Billions of dollars, end of period)

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | June 2008 |
|----------------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Currency | 15 666 | 16 748 | 18 469 | 24 475 | 29 289 | 31 364 | 40 239 | 56 238 | 62 983 |
| Interest rate | 64 668 | 77 568 | 101 699 | 141 991 | 190 502 | 211 970 | 291 582 | 393 138 | 458 304 |
| Equity-linked bond | 1 891 | 1 881 | 2 309 | 3 787 | 4 385 | 5 793 | 7 488 | 8 469 | 10 177 |
| Commodity | 662 | 598 | 923 | 1 406 | 1 443 | 5 434 | 7 115 | 8 455 | 13 229 |
| Credit default swaps | ... | ... | ... | ... | 6 396 | 13 908 | 28 650 | 57 894 | 57 325 |
| Unassigned | 12 313 | 14 384 | 18 337 | 25 508 | 25 879 | 29 199 | 39 740 | 71 146 | 81 708 |
| <i>Total</i> | <i>95 200</i> | <i>111 179</i> | <i>141 737</i> | <i>197 167</i> | <i>257 894</i> | <i>297 668</i> | <i>414 845</i> | <i>595 341</i> | <i>683 725</i> |

Source: Bank for International Settlements (BIS), *Quarterly Review*, various issues.

system became one whose business model was based on trading risk in the financial market, so that risk itself became a source of extra profits for financial institutions as it was sold on to investors willing to diversify their portfolios by accepting exposure to sectors and risk-return profiles not previously available to them.

In this context, the banks no longer had incentives to assess, mitigate and protect themselves against the risk associated with operations of this type, as they were transferring it to buyers of securities in the form of collateralized debt obligations (CDOs). These were created through structured investment vehicles (SIVs) which, being separate from the banks, enabled the latter to keep these operations off their balance sheets. This made it possible to evade the solvency and liquidity regulations and risk controls applicable to banks and meant there were still fewer incentives to measure risk properly.⁷ The result was that the great majority of those purchasing these securities did not know exactly what they were buying.

The subprime market had also developed strongly over the previous years, particularly for mortgages, on the basis of high property prices. This market consists of loans granted to individuals who have a higher credit risk (or are not considered creditworthy) and would only receive loans at higher interest rates and on stricter terms if the usual internal risk control standards and procedures were applied.

Given the opportunity to securitize such loans and transfer the risk associated with them to other agents in the market, financial institutions bundled these mortgages into securities that were then traded in the market as high-quality credit instruments, since the risks were supposedly diversified and backed by real-estate collateral. In addition, there was a general feeling of optimism about the performance of the economy, so that property assets became overvalued and the possibility of price falls was underestimated. Nonetheless, these new instruments included bundles of mortgages with different levels of risk, and there was significant correlation between them as regarded the likelihood of default. In short, there were serious shortcomings in risk measurement and the risk of default was underestimated or simply unknown (Bernanke, 2008; Rudolph and Scholz, 2008).

A number of factors have been blamed for the failures of risk measurement, reporting and management. First, these instruments were relatively new, which meant that the statistical information available on their behaviour covered only periods of economic growth. Second, the stress tests applied to the models were not extreme enough, so that liquidity requirements were inadequate for periods of difficulty (Bazinger, 2008). Again, the pricing models for these assets worked on the premise that markets would provide continuous price signals and maintain a degree of liquidity, which in the event proved to be wrong (Eichengreen, 2008; Financial Services Authority, 2009). All this was compounded by an extraordinary lack of transparency in the system, with inadequate reporting of risks incurred, which made it very difficult to know how much risk had actually been taken on by financial institutions and investors in instruments of this kind. The situation was further complicated by the incentive schemes implemented by upper management and the role of risk rating agencies and of the potential conflicts of interest arising from their work.

In this context of strong credit growth, inadequate regulation and poorly measured or simply unquantified risk, alarm bells began to sound in the United States financial system in mid-2007. The unemployment rate, after dropping substantially, began a steady climb. The heavy borrowings of families and the perception that people were having difficulties meeting the repayments on their mortgages weighed on the prices of securities based on these. Rising mortgage arrears in the subprime market led to an increase in judicial auctions of mortgaged homes. As lower demand for housing met an abundant supply, property prices began to fall. The vicious circle that had artificially inflated property values, financial wealth, credit and profit growth and the balance sheets of numerous financial institutions (banks and non-banks) was abruptly halted and then reversed, triggering the crisis.

This sequence of events showed that the banks had been lending on the basis of overinflated asset prices. Consequently, when the values of bank assets (loans and financial investments) began to collapse, capital also diminished and in many cases disappeared because of extremely high levels of leverage, particularly in the case of investment banking, an activity that virtually ceased to exist in the space of less than a month. A number of the institutions that stood behind the affected mortgages had large market shares and were bailed out (Bear Stearns, AIG, Fannie Mae, Freddie

⁷ Off-balance-sheet operations, as the name implies, are not recorded among either the assets or the liabilities of the financial institutions originating them.

Mac). These successive rescues fuelled speculative behaviour and the authorities judged that there had been a worsening of moral hazard on the part of failing institutions. Consequently, following arduous negotiations to prevent the collapse of the investment bank Lehman Brothers, they changed tack and decided not to intervene. This precipitated the failure of the bank and unleashed panic, as expectations of an implicit bail-out guarantee vanished.

The strong likelihood of contagion and bankruptcies due to the loss of confidence and uncertainty associated with the spread of the subprime

mortgage crisis eventually materialized in late September 2008. As a result, liquidity contracted in international markets, interest rates in the interbank market rose sharply and there was a general deflation in the prices of financial assets in international markets over the early weeks of October, with large falls in share and commodity prices. Not knowing the risk exposure of other financial agents, banks preferred not to lend, and this led to a severe liquidity drought in national and international interbank markets and thence to the credit crunch. At this point the financial crisis finally reached the real sector and developing countries.

III

Some lessons of the current financial crisis for Latin America and the Caribbean

The historical evidence, and an appreciation of the essential fragility of financial systems, indicate that crises originating in these are an inseparable part of growth. To abolish them completely it would be necessary to inhibit the risk-taking that is an essential part of progress, innovation and economic development. What lessons for Latin America and the Caribbean can be drawn from this crisis to reduce the frequency with which they occur and limit the fall-out when they do?

The region's financial systems are by no means as sophisticated as those of the countries where the current crisis originated, and bank penetration is considerably lower. In particular, the complex system for raising and allocating financing that is characteristic of developed countries, with a multiplicity of agents intervening between savers or financial investors and the actual investor or final borrower, is not a feature of our countries, although some components are present in certain cases (Chile, Brazil, Mexico and, to a lesser extent, Colombia) (see figure 1). Thus, capital markets, and the market segments in which derivatives and securitized instruments in particular are traded, are underdeveloped or non-existent.

This generalization is not altogether applicable to countries where institutional investors (such as pension funds and life insurance companies) have developed significantly as a result of pension system reforms. The development of credit securitization firms, for their part, is very recent.

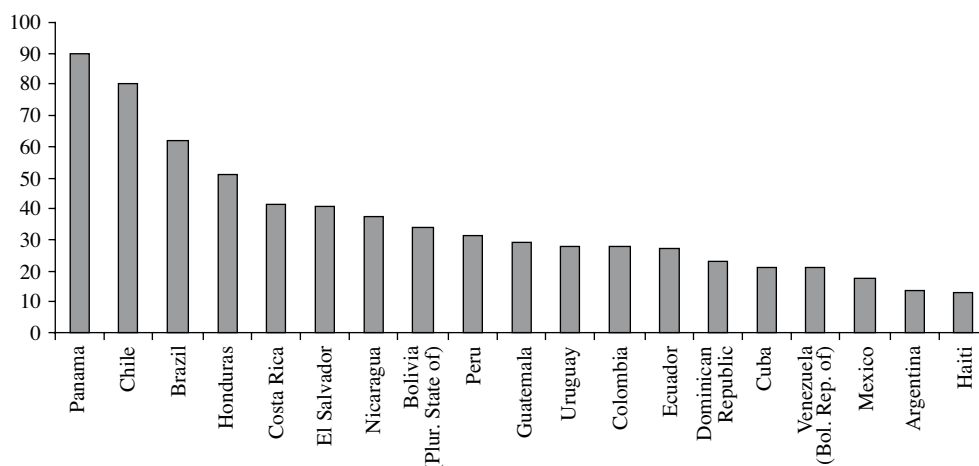
The region's financial system therefore continues to be dominated by commercial banks that retain in their portfolios a substantial portion of the risk from their investments and employ a funding system based essentially on deposits, standardized bond issues and, in some cases, access to resources from the international financial system. Although it may perhaps result in a lower degree of efficiency when it comes to turning saving potential into financing for growth and development, this lesser complexity has helped to ensure that under present conditions the region's financial systems have not suffered to anything like the same extent from the symptoms and failings that led to the current crisis in a number of developed-country markets. Probably the most palpable direct impact on the region's banks arose in cases where their funding relied heavily on short-term financing from abroad.

Meanwhile, there has been clear progress with banking regulation, particularly since the adoption by several countries of the recommendations of the Basel Committee on Banking Supervision, known as the Basel I Agreement, although implementation has been patchy.⁸ This progress is partly due to the past experience of financial crises in Latin America and the desire to avoid the high costs these entailed,

⁸ The United States has not adhered fully to these recommendations.

FIGURE 1

Latin America: domestic lending to the private sector
(Year-end balances as a percentage of GDP)



Source: ECLAC, on the basis of official figures.

in terms both of lost economic activity and of the large amounts of fiscal resources committed to bank rescue operations. Thus, in relation to earlier crises, the region's banking institutions find themselves in principle on a better footing of solvency to deal with fluctuations in economic activity.

Nonetheless, the emphasis of regulation is on capital adequacy, loss provisions and rules on liquidity and currency and maturity mismatches for individual banks. This emphasis does not address the very aspects that have characteristically underlain systemic crises, including the present one: the steady growth of overall lending and constantly rising asset prices, and the concentration of credit in certain market segments, all of which is indicative of an enormous build-up of systemic risk.⁹ Recently, both the Basel Committee itself and the authorities responsible for the stability of national financial systems have brought out proposals to address just these aggregate issues underlying systemic financial crises, thereby opening up the new field of macroprudential

regulation.¹⁰ Implicitly or explicitly, different regulatory and government authorities have accepted the need for a new approach.¹¹ Nonetheless, there is still a need to work out how best to implement the kind of financial indicators this type of regulation requires and the rules to be applied in cases where a sector poses a risk to the system as a whole even though individual institutions are within their risk limits.

Where the region is concerned, four areas of debate are yielding tentative but important results: (i) macroprudential measures for crisis prevention, (ii) improved prudential regulation of financial institutions to make their behaviour less procyclical, (iii) broader scope for regulation and (iv) certain conflicts of interest that interfere with the timely and reliable disclosure of the levels of risk taken on by financial institutions.

1. Macroprudential measures

A number of financial crises have been preceded by strong credit growth and steady increases in certain asset prices, and this has given rise to a debate about the role of monetary policy when there are growing signs that a bubble is forming. The central issue has been the extent to which monetary policy ought to be

⁹ By systemic risk we mean the likelihood that when a financial institution encounters difficulties or fails, there will be severe disruption to markets and payment systems leading to the failure of other institutions, both in the financial world and in the rest of the economy. The systemic importance of an institution is not determined solely by its size (e.g., market share) but also depends on the role it performs, for example, in the payment chain or in the lending process as a whole.

¹⁰ See, for example, White (2008) and Borio and Shim (2007).

¹¹ See Financial Services Authority (2009) and the proposals of the United States government for reforming financial regulation.

oriented towards deactivating the mechanisms driving the asset price boom and the manner in which this new policy orientation is to be integrated with the conventional goals of maintaining employment and controlling inflation.¹² Some authors have argued that one situation which would justify intervention by the monetary authority in the asset market is when there is evidence of reciprocal causality and feedback between asset price booms and lending, but that even so monetary policy ought to intervene only if this vicious circle affects the goals of controlling inflation and achieving a sustainable level of employment. This approach considers that the goal of preventing financial market developments from turning into systemic crises is better suited to the characteristics and tools of regulatory policy (Mishkin, 2008).

Because Latin America and the Caribbean have less sophisticated financial systems, systemic financial crises there have usually had different origins to those identified in the case of more highly developed financial systems, so that the debate has to be approached from a different perspective. The type of credit growth that has led to financial crises in the region has more to do with persistent macroeconomic imbalances leading to excessive expenditure (both public and private), inconsistencies between macroeconomic policies and exchange-rate regimes, and permissive regulatory regimes that have opened the way to excessive risk-taking. All this has sometimes been compounded by lax lending to customers connected to the ownership or management of banks.

In a number of cases, lending growth has originated in large inflows of external capital in a context of fixed exchange-rate regimes and high local interest rates. The implicit guarantees provided by an exchange-rate regime of this type can lead to external overborrowing by banks and other agents and thus to a build-up of currency mismatches and overspending that places pressure on domestic prices and leads to an overvalued real exchange rate and a deteriorating external balance, ultimately forcing devaluation. From then on, events follow much the same course as in a crisis induced by an asset price bubble: devaluation exposes the mismatches between the values of assets and liabilities held by banks and other agents who were

relying on the guarantee provided by the exchange-rate regime, and the result is bankruptcies among financial institutions and a credit crunch.

Associated with this, although without necessarily reflecting macroeconomic imbalances, the exposure of local banks to the risk of sharp fluctuations in external liquidity because of maturity or currency mismatches between their assets and liabilities has also been a source of financial crises and has exacerbated crises originating in domestic imbalances, external shocks or both (see figure 2).

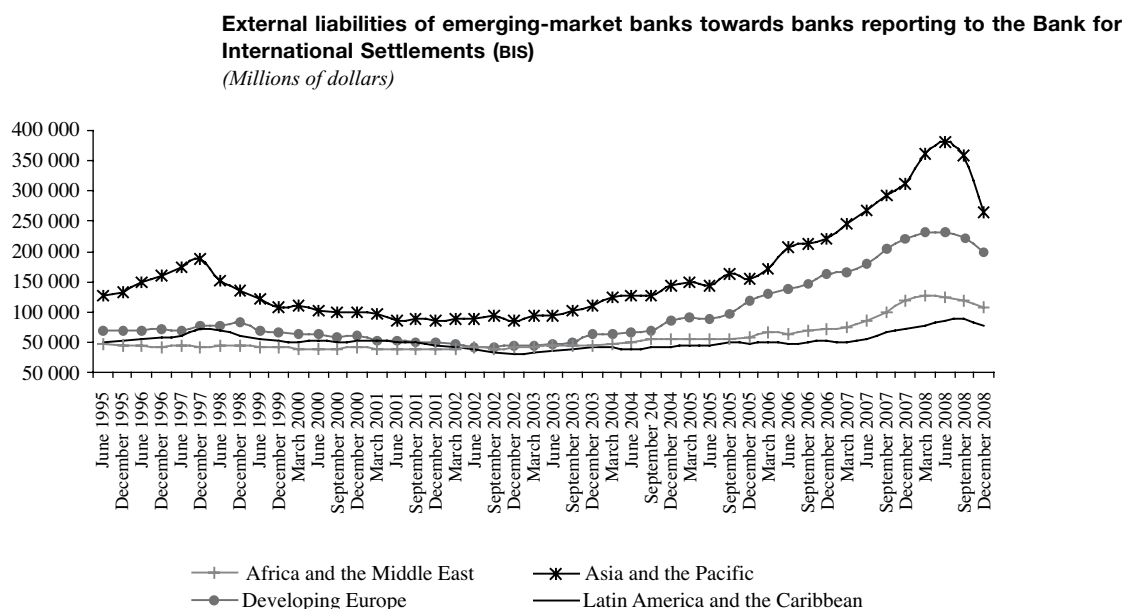
Again, just as with the current crisis, the experience of the region and other developing countries suggests that one harbinger of an imminent crisis is a significant concentration of credit in certain segments of the market, particularly property (residential and commercial), leading to overinvestment in these sectors and thus sowing the seeds of collapse there and among banks. This behaviour is partly explained by the inability of individual financial agents to assess the market risks caused by credit concentration at an aggregate level, as their interest is focused almost exclusively on the risks of their own lending portfolios. Underlying this is excessive optimism about their ability to unwind portfolio positions if difficulties arise, as discussed further on.

Credit concentration has three further dimensions that have been the source of many systemic crises and bankruptcies among financial institutions. The first is the existence of banking institutions that are too big for the economies they operate in and that can represent a systemic threat if they go bankrupt. The second threat of this type arises when banks are highly exposed to the risk of certain major customers going bankrupt. Lastly, crises have also been caused in Latin America by lending to related parties involved in the ownership or management of banks. Policies to prevent crises of this type are obviously not to be sought in the monetary sphere in the narrowest sense of the term. Rather, there will need to be some combination of policies to correct macroeconomic imbalances, establish prudential or regulatory measures and promote market competition.

Thus, a number of countries have opted for exchange-rate regimes that do not provide implicit guarantees, so that agents will internalize the risk of their external exposure and unsustainable spending behaviour thus be prevented. This is perhaps one of the most important measures for preventing crises originating in excessive optimism about the availability of external resources. It may not be an adequate

¹² A number of the region's countries have tended to make price stability the only goal of monetary policy. According to Mishkin (2008), the United States Congress has laid down a threefold mandate for monetary policy: price stability combined with full employment and moderate long-term interest rates.

FIGURE 2



Source: ECLAC, on the basis of figures from the Bank for International Settlements (BIS).

deterrent, however, in situations of great external liquidity and low interest rates in the leading global financial centres, as seen until recently. Greater risk tolerance, and a possible relaxation of regulatory rigour during periods of strong economic growth and global liquidity, may cause agents to underestimate the likelihood of favourable external circumstances reversing.¹³

Thus, while the exchange-rate regime may not provide implicit guarantees, the external overexposure of banks, firms and other agents can rise to unsustainable or risky levels. The responsibility of the relevant regulatory authority (the banking regulator or the regulator responsible for supervising institutions that carry out public securities offerings) consists in this case in making the risks incurred by these institutions more transparent, both individually and for the system as a whole, and in creating awareness of risk, for example by requiring that periodic reporting should include the results of stress tests that use recognized methodologies to estimate the effects on assets and the liquidity and capital needs that would arise in less favourable scenarios.

¹³ Borio and Zhu (2008) explore the relationship between the economic cycle and risk perception and argue that this procyclical relationship has recently played a greater role in the genesis of financial crises.

Again, recognition that sustained credit growth has been one of the factors behind financial crises has recently led to a new interest in measures to oversee financial institutions' global leverage, on top of capital requirement regulations. These are discussed in the next section.

A sustained increase in credit concentration in particular market segments increases systemic risk because, even if each individual institution can show levels of liquidity and provisions that are apparently sufficient to cover expected losses, they may not be adequate for all of them as a group since there is an underlying fallacy of composition. In the event of a shock in that market, a number of institutions will require liquidity simultaneously to meet their liabilities (such as deposits). If this increased demand for liquidity also leads banks to sell off some of their investments in other instruments and restrict their lending, losses of value could spread to other market segments, making the original liquidity and provision levels inadequate. It is therefore advisable for the regulator to carry out stress tests for the market as a whole based on total exposures and, when this indicates a level of potential liquidity demand that is considered high, to use prudential rules to restrain lending growth in that market.

Prudential rules have recognized the risk posed to financial institutions by exposure to large

borrowers and related parties involved with their ownership, management or both, and quantitative limits have accordingly been placed on such lending. Unfortunately, no empirical diagnosis is available to show how effectively these rules or other risk reduction provisions have been applied in Latin America. In any event, much remains to be done in terms of periodic public reporting of the risk level embodied in the portfolios of banks and other systemically important institutions. This is a serious deficiency, given that the ability of financial systems to mobilize savings effectively depends critically on agents' knowledge of the risks incurred when these savings are deposited with banks or when securities issued by them (bonds and shares or other instruments) are purchased. Furthermore, this transparency acts as an extra discipline for banks, encouraging more cautious lending behaviour on penalty of their depositors and investors losing confidence in them if they take very risky positions. Thus, prompt, regular and reliable reporting is the least that can be asked both in this case and for all portfolio risks so that depositors and investors are aware of the risks they are taking on, with market discipline thereby promoted.

Lastly, pro-competition rules and those relating to the granting and withdrawal of banking licences, the entry of foreign banks and mergers of financial institutions, among other regulations dealing with market concentration, are some of the other aspects that are underdeveloped in the region when viewed from the standpoint of financial system stability.

2. Reducing the procyclicality of the financial system

The procyclical behaviour of financial systems has been widely acknowledged as both a cause of crises and a factor aggravating them. There are two main orders of problems for regulators here: the risk attitudes of market agents over the cycle and the extent to which certain prudential rules might accentuate the procyclical character of the system.¹⁴

Financial markets are governed by evolving expectations of future returns, which have proved too optimistic in upturns as agents' risk tolerance increases and too pessimistic and risk-averse during market downturns. Consequently, lending and liquidity tend

to behave in ways that heighten cyclical fluctuations.¹⁵ Although other factors undoubtedly come into play, one of the areas of failure is the risk perception of agents. As has often been pointed out, by failing to take due account of the systemic effects of excessive credit growth and the eventual bursting of the bubble, agents overestimate their ability to change their risk exposures (i.e., their ability to transfer risk to others before the bubble bursts) and underestimate their liquidity needs, as they do not consider systemic crisis scenarios. The fallacy of composition is obvious and is manifested in deep falls in asset prices and intense demand for liquidity when a crisis breaks out. In turn, the effects of rising risk tolerance during upturns are aggravated by incentive systems that reward short-term profitability, encouraging emulation of risky behaviour and tending to undermine corporate governance as internal controls that ought theoretically to restrain risk-taking are relaxed.

Particular regulations that may heighten procyclicality include requirements for risk to be measured on the basis of short-term portfolio behaviour for the purpose of loss provisioning, and application of the ratio between effective capital and risk-weighted assets as a measure to ensure regulatory capital adequacy.^{16, 17}

Under the rules applied in a number of the region's countries, provisions (which are imputed costs affecting the result or yield of the portfolio) must be set aside in accordance with the performance category lending falls into. For example, a loan that has been non-performing for more than a given period of time must be set down as irrecoverable and provisioned for, with a write-down of 100% of its value. Conversely, loans with no current or previous arrears do not generate additional portfolio costs, i.e., expected losses, and so are not provisioned for. Of course, there are intermediate credit performance categories giving rise to provisions of between 0% and 100%

¹⁵ In fairness, it should be pointed out that this euphoric/depressive behaviour does not only affect private agents. The behaviour of public spending and wage expectations also tends to display procyclical characteristics.

¹⁶ Effective capital is defined as capital and reserves + junior (subordinated) bonds + provisions – investment in companies – capital allocated to subsidiaries abroad. The denominator is the weighted sum of all assets. The weightings are fixed and are defined (in Basel I) by general risk categories, ranging from 0% for risk-free liquid assets to 100% for risky and less liquid assets.

¹⁷ The literature generally distinguishes between this regulatory capital and "economic" capital. The latter is the level of capital actually held by banks, which for precautionary reasons usually exceeds the capital amount laid down by the regulations.

¹⁴ See, for example, Rochet (2008), Bikker and Metzmakers (2002), Gordy and Howells (2004) and Taylor and Goodhart (2004).

of the loan amount, with another factor sometimes being the quality and amount of collateral, as this affects the prospects of recovery. In the vast majority of cases these provisions are established on the basis of the observed (rather than expected) behaviour of the portfolio, and since the evidence plainly shows that credit performance is procyclical, they tend to fall during upturns and rise in downturns.¹⁸ Thus, because these provisions are meant to reflect portfolio costs incurred (they do not relate to expected costs, for example), bank lending is more profitable in upturns. To the extent that the likelihood of losses over the full cycle is underestimated at this stage, medium- or long-run returns are overestimated and, given an incentive system based on short-term indicators, this reinforces expansionary behaviour and vice-versa. In summary, the cost of generating loans (including provisions) falls in the upswings of the cycle, which spurs lending growth, but rises during the downswings, eventually triggering a credit crunch.

Different analyses have pointed out that the proposed new capital accord currently under discussion (Basel II) would tend to accentuate this procyclical behaviour yet further, as it links regulatory capital more closely to portfolio risk. Other analysts, while accepting this possibility, argue that under the version of the accord that allows banks to use their own credit risk models to determine their capital requirements, these would tend to reflect risk behaviour better over the whole cycle. In the light of experience with the behaviour of risk tolerance and of the internal controls that were supposed to prevent overexposure in the run-up to the present crisis, this claim looks more like wishful thinking than a realistic analysis, particularly in the case of new instruments whose risk characteristics are insufficiently known.

The current crisis revealed the crucial role played by liquidity, both in the build-up of systemic risk and in the outbreak of the crisis and its transmission to the rest of the economy. During the phase of plentiful liquidity, agents could take positions and liquidate them fairly easily, which allowed them to take on larger maturity risks (using short-term funding to maintain long-term positions) in the confidence that if greater liquidity were needed, it could easily be obtained by

selling assets into a large, fluid market.^{19, 20} Once again, the fallacy of composition became apparent in the critical phase and a number of markets that were formerly liquid virtually disappeared in a very short time or continued to operate at very low levels, which exacerbated uncertainty and the credit crunch globally. In other words, this episode revealed the procyclical and systemic character of market liquidity.

There have been a variety of proposals for dealing with the procyclical nature of certain regulations, the best-known being the “statistical provisioning” introduced by Spain in 2000. This relies on calculations of the likelihood of loan default based on typical behaviour over the full cycle. Thus, in the early stages of a lending boom, when default rates are typically below the average for the full cycle, the lending cost represented by provisions remains constant rather than falling, so that there is no extra stimulus for lending growth. Similarly, this cost remains constant in the downswings of the cycle instead of rising, which helps to prevent an excessive contraction of credit.

Objections have been made to this system, but in any event its effectiveness in reducing the procyclical nature of lending can only be assessed once the present crisis is over.²¹ An initial observation is that, while it may have done something to reduce this procyclical nature, it does not appear to have been sufficient to prevent overlending, given that the mortgage segment of the country’s financial system has also been affected by developments similar to those underlying the crisis in other developed countries. The applicability of

¹⁸ There may be some time lag between the rise of portfolio risk and provisions, as banks could decide to hold excess provisions temporarily. This entails a cost, however.

¹⁹ See Financial Services Authority (2009), which presents evidence of the significant increase in such term transformation in the run-up to the crisis.

²⁰ In the literature, this strategy for obtaining liquidity is called “liquidity through marketability” to differentiate it from the approach that emphasizes the need for asset portfolios to include safe and highly liquid financial securities such as government bonds or securities issued by the central bank.

²¹ Criticisms are based on accounting, tax and corporate governance considerations. From the accounting point of view, provisions are charges against costs *caused* (although not yet paid) in the present. Provisions based on the likelihood of future non-payment are charges for costs that have not yet arisen, and so should not be made. From the standpoint of the tax authority, the reduction in taxable profits that results from setting aside provisions against future non-payments is a device that opens the way to intertemporal tax arbitrage which reduces the present value of tax payment flows. Lastly, from the point of view of shareholders, particularly if ownership is very dispersed, bringing forward provisions reduces dividends and provides a source of funding that managers can use to implement expansion plans without having to raise financing from the market, weakening the discipline this might impose on the institution.

this measure to the region still has to be evaluated, as it has shorter and more variable cycles than developed countries.

With regard to capital, proposals are more diverse. To reduce the procyclicality of the current capital requirement, it has been proposed that current regulations should be supplemented by a leverage limit based on the ratio between core or Tier 1 capital and gross assets, i.e., loans, but this time without risk weighting (Financial Services Authority, 2009).²² It is argued that this is a more robust measure of a financial institution's solvency and at the same time less procyclical than the criterion currently applied (the ratio between capital and risk-weighted assets). For one thing, the riskiness of many assets rises in situations of crisis; consequently, to restore the ratio between capital and weighted assets the former must be increased or the latter diminished. Because capital is hard to come by in a crisis, the result is a reduction in assets, i.e., a procyclical credit crunch. The supplementary measure proposed, because it discards risk weightings and requires a certain percentage of capital for all assets, could translate firstly into a higher capital requirement (thus strengthening solvency) and secondly into reduced risk sensitivity, thus making the regulations less procyclical.

Before the Basil II Accord was applied by a number of the region's countries, regulatory capital was often determined by employing concepts similar to the measure proposed. This did not completely eliminate procyclical lending behaviour, however, which shows that progress in this area will need to come from a range of policies, some of them regulatory in nature, others relating to the macroeconomic regime.

A second proposal is for dynamic capital requirements, rising during phases of lending growth and falling during phases of contraction. This is a way of acknowledging that it is during the early phases that credit risk accumulates, even if it actually materializes in the downturns of the cycle. Dynamic capital requirements would reduce procyclical lending behaviour because the cost of generating credit (raising new capital) would rise in the upswings of the cycle. Some regard this proposal as highly dangerous, as it is precisely during downswings that a high level of bank capitalization is required, as was demonstrated

by the solution to the banking emergency in Europe and the United States. Otherwise, confidence in system solvency deteriorates severely, potentially leading to paralysis, as happened in the present crisis.

A third set of proposals aims to deal with the uncertainty affecting bank solvency at times of crisis, which exacerbates so-called "counterparty risks" or credit risks.²³ The goal is to reduce that uncertainty and thereby moderate or prevent a disorderly credit crunch at the end of the cycle. Some have suggested establishing capital insurance, so that when particular events indicative of a risk of financial crisis occur, the capital available to banks to cope with losses is supplemented by this insurance; thus, the obligation to comply with capital requirements would not result in a procyclical credit crunch (Kashyap, Rajan and Stein, 2008).

The authors of this proposal have themselves formulated observations similar to those made on the contingent credit lines of the International Monetary Fund (IMF) at the time they were established. An arrangement of this type ought to be made compulsory for all banks of systemic importance, since none would wish to be the first to adopt it given that it could be interpreted by the market as a sign of weakness. Insurance, meanwhile, could give rise to moral hazard, increasing the likelihood of crisis. There is also the question of who would be the insurer, since the amount of resources needed in a systemic crisis can be large.

Lastly, the liquidity debate is only just beginning and regulation is expected to be even more important in this area than for capital, including measures to restrict term transformation by reducing maturity mismatches between assets and liabilities. While this has a cost in terms of the capacity to support long-term ventures, it offers the benefit of shoring up the stability of the financial system, with positive consequences for long-term growth.

In short, finding the best way to deal with procyclicality in the financial system remains an unresolved challenge in the world and the applicability of proposals to the region needs to be carefully evaluated. This is also true of proposals for reviewing liquidity requirements that are aimed at preventing episodes in which disorderly liquidation of financial

²² Core capital or Tier 1 capital is the portion of regulatory capital provided directly by shareholders. An approximation to this (since definitions vary from case to case) is effective capital, excluding junior (subordinated) bonds.

²³ This risk particularly affects liquidity during crisis episodes and concerns the likelihood of default in interbank market operations and those with counterparties in financing and investment operations.

assets drives down their prices yet further and exacerbates the credit crunch (Financial Stability Forum, 2008; Bazinger, 2008; Rochet, 2008; Basel Committee on Banking Supervision, 2008). These proposals could entail certain costs for the financial industry (higher capital requirements, for example) and a reduction in its capacity to use short-term resources to finance long-term ventures. Nonetheless, a more stable financial system makes a very important contribution to development. As ECLAC has pointed out on many occasions, economic variability is one of the main factors behind the low growth that characterized the region for a number of years.

3. Extending the scope of regulation and reliable risk disclosure

As already noted, one of the causes of the present crisis lies in inadequate disclosure of banks' risk exposures and the avoidance of regulation by means of off-balance-sheet operations. Thus, one of the lessons that can be learnt is precisely the need for banks to reveal their exposure to the risks entailed in these operations and for regulation to extend to any institution with systemic risk potential.

There is a need to determine the extent to which banking institutions in Latin America and the Caribbean are actually revealing their risk exposure, for both on- and off-balance-sheet operations. As pointed out earlier, periodic reporting of portfolio risk information is, *a priori*, inadequate in the region. Indeed, the practice of publishing periodic indicators of average bank portfolio risk (such as levels of arrears and weighted portfolio risk) is still not sufficiently widespread, even though this is considered indispensable if depositors are to be properly informed about the risks they are taking on, thus reducing the implicit State guarantee.

In a number of countries, again, financial development has been accompanied by the appearance of new intermediaries that have helped improve the efficiency of the system, but that bring new risks. Thus, there are now institutions that carry out financial investments, manage third-party portfolios or both. These investment companies sometimes carry out public securities offerings, whereupon they become subject to regulation by the authority responsible for this area. In other cases their funding does not rely on resources raised from the public, so that they are regulated very lightly or not at all on the basis that there is no implicit public guarantee. Nonetheless,

the present crisis in the United States has provided dramatic examples of cases where failures in the supervision of some of these institutions after they had grown large enough to pose potential systemic risks worsened the situation yet further.

Like developed countries, the region has seen the emergence of lending institutions in unregulated areas that have grown large enough to become a source of systemic risk. This is the case with credit cards issued by department stores and supermarkets (which are not defined as financial institutions), as these have become a very major source of credit, particularly for lower-income segments. These institutions basically operate as intermediaries for credit lines obtained from banks, but in some cases they also tap local and external capital markets directly for funding via bond issues. The amount of credit issued by them directly does not fully reflect their systemic risk, since their main instrument, the credit card, also tends to be used as a medium of payment in numerous businesses of significantly smaller size. Being retailers, they are usually not covered by financial regulation or subject to special capital or liquidity requirements.

Although their lending is spread among a large number of customers, the portfolio quality of these retailers could be seriously affected during a recessionary episode. This is because of the large proportion of vulnerable borrowers who systematically suffer more from negative fluctuations in economic activity. In this case, having a large number of borrowers is not necessarily equivalent to risk diversification, given the correlations that exist in the payment capacity of the groups most exposed to variations in the cycle.

In summary, the large scale of this type of lending today means that the systemic effects of bankruptcies among institutions of this type are not minor and can affect the capital of lending banks and holders of the paper (short-term securities and bonds) issued by them, although not necessarily the saving public, as they are not usually deposit-takers. The risk centres in this case on the possibility of an interruption in the payments chain, which is more serious the more widely used this instrument is as a payment method. This could lead to a liquidity crisis whose effects might spread to the rest of the system and trigger systemic repercussions.²⁴

²⁴ This danger has been recognized in Chile, where certain rules have been introduced to regulate the lending operations of department stores and supermarkets. The different nature of these institutions means that two types of rules have been introduced, depending on

Similarly, savings and loan cooperatives have grown large enough in some cases to generate systemic effects, although they would be smaller than those resulting from the failure of a largish bank. Nonetheless, the consequences in such cases are usually felt by low-income groups, which typically account for a larger share of deposits in such institutions, or in certain cities or regions where the penetration of the banking system is lower, and by certain groups in similar categories (agriculture, dairy farming, saving for home ownership, etc.). Traditionally, these financial activities have been much more lightly regulated and bankruptcies have resulted in losses for the groups referred to and in unplanned use of public resources.²⁵

The objections raised to increased regulation for institutions of this type are largely based on the fact that these sources of credit are often the only ones available to lower-income groups and that liquidity rules and capital requirements would make them more costly, thereby denying these people access to credit. However, these costs need to be compared with the negative effects that a crisis, whether systemic or confined to particular regions or activities, could have for the whole economy and for lower-income groups in particular.

Lastly, continuing with the subject of reliable disclosure of risk exposures as one of the main measures for preventing systemic crisis, consolidated oversight of financial conglomerates is at a very incipient stage in the region. Thus, it is not possible to state banks' degree of exposure to the risks of firms (financial and non-financial) that are members of a holding company. Likewise, there are few cooperation agreements between different regulatory agencies (for banks, insurers and limited-liability companies), so that the supervisory authority does not have an overview of the systemic risk posed by a particular financial institution.

the total volume of credit granted, so that the smallest have been left unregulated. For medium-sized lenders, liquidity requirements only have been established, as the systemic risk they pose is considered to be small but not insignificant. Capital requirements have been introduced in addition for larger institutions, although they are significantly less onerous than those imposed on banks.

²⁵ A recent example of the risk represented by unregulated financial intermediation activities is provided by the collapse of various "pyramids" in Colombia during the second half of 2008. The crises at these informal saving institutions resulted in losses for lower-income groups, social unrest and public intervention to moderate the impact on these groups. During the liberalization of the financial system in Chile in the 1970s, appropriate regulation and oversight were lacking and informal financing institutions also emerged and then went bankrupt (Held and Szalachman, 1989; Held and Jiménez, 1999).

4. Conflicts of interest associated with risk assessment

As already stated, shortcomings in the way credit risk is dealt with form an essential part of the explanation for the current financial crisis in developed countries. Deficiencies in these areas have combined with lax regulation and changes in the financial system to generate inappropriate incentives where risk is concerned. Although, as already mentioned, the nature of the region's financial systems is quite different from that of the developed countries', there are certain common features that have the potential to lead to a weakening of risk monitoring by the supervisory authorities in less sophisticated systems.

First, there is a clear conflict of interest for rating agencies when these not only help to structure financial instruments, but also have to express an opinion on their credit quality. The same is true of the role played by external auditors, which usually provide a range of services to financial institutions, with obvious conflicts of interest sometimes arising when they come to express their views on their financial statements.

It was the acknowledgement of these conflicts following the crises of major conglomerates in the United States during the early years of the present decade, leading among other things to the disappearance of one of the big four global auditing firms, that gave rise to the Sarbanes-Oxley law. The thrust of this was to make external auditing firms independent of their clients by limiting the functions they could perform vis-à-vis a given firm or group of related firms and by setting limits on how important, commercially speaking, any one client could be to a given auditing firm.

In Latin America and the Caribbean, the lessons from these crises have not been incorporated into regulations governing the role of risk rating agencies and external audit firms. Furthermore, the region has fallen behind in the way it treats transactions between firms with links of ownership or kinship between their owners and leading executives. Given the small size of some economies, then, there is still the potential for the conflict of interest that arises when there is a relationship of one of these two kinds between a financial institution and the firms that should be providing an independent opinion on its financial statements or assessing the risk level of a financial security.

Secondly, it has recently been proposed in the context of the Basel II Accord that banks' internal methods should play a more important role in

determining the risk characteristics of particular instruments in order to establish capital requirements and provisions. In the light of recent experience, this is clearly a field where conflicts of interest are acute and the systemic consequences can be very severe, so the

opinion of private agents should not be exclusively relied upon. Proper rating of the risks of new and increasingly complex financial instruments will thus require major investment to improve the technical capabilities of those supervising the region's systems.

IV

Conclusions

More than a year on from the outbreak of the current financial crisis in the United States, its causes are starting to become abundantly clear. Analysis of these causes shows that, contrary to the claims of market optimists, the financial markets suffer from serious failings of self-regulation. This is explained by the role played by expectations about future returns, serious information asymmetries and failures and moral hazard, conflicts of interest and inadequate governance, as a result of which financial markets are prone to unsustainable equilibria and to “manias and panics” that can lead to systemic crises.

The current crisis has also brought to light some major fallacies of composition underlying an approach to the operation of financial markets that fails to take account of the systemic aspects of market liquidity and risk. It is precisely on the basis of these systemic and procyclical characteristics that financial system regulation is now undergoing a major reformulation.

Although the region's financial systems differ significantly from those of more developed countries, a number of lessons from this debate, appropriately adapted, are also germane to the effort to create better regulatory frameworks and public policy management in the region.

This article has emphasized lessons that can be learned in the sphere of financial system regulation, but this does not detract from the importance of macroeconomic measures to prevent financial crises and enhance the ability of economies to cope with them. Many of the financial crises experienced in Latin

American and Caribbean countries can be traced back to the implementation of macroeconomic policies that were inconsistent or encouraged overborrowing, or both. Nonetheless, regulatory failures and the procyclical and systemic characteristics of the financial system played their part in aggravating imbalances and heightening their effects when these problems arose.

The lessons for financial regulation in the region from the current crisis so far relate to internal regulatory aspects and fall into four main groups: (i) the need for a macroprudential approach to supplement the current regulatory approach, (ii) the need to design mechanisms that can reduce the procyclicality of financial systems, (iii) extension of the traditional scope of regulation and oversight to any institution that poses systemic risks, and (iv) certain aspects of the relationship between risk rating agencies, external auditing firms and financial institutions that result in faulty handling of risk.²⁶

Intensive debate is going on in all these areas, but analysis is only just beginning in Latin America and the Caribbean. Given the severe economic and social effects that have stemmed from the present crisis, there is an increasingly compelling need to review the situation of the region in the areas discussed here.

(Original: Spanish)

²⁶ The issue of how to handle a crisis once it has begun are part of another discussion that is not broached here.

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